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ANITIPARKINOSONISM AGENT

KYOWA HAKKO KOGYO CO LTD

**Inventor(s):** ; SUZUKI FUMIO ; SHIMADA JUNICHI ; KOIKE NOBUAKI ; NAKAMURA JOJI ;  
SHIOZAKI SHIZUO ; ICHIKAWA SHUNJI ; NONAKA HIROMI

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**Abstract:** PURPOSE: To obtain an antiparkinsonism agent having strong and highly specific adenosine A<sub>2</sub> antagonistic action by using a xanthine derivative as an active component.

CONSTITUTION: The compound of formula I [ $R^1$  and  $R^2$  are methyl or ethyl;  $R^3$  is H, lower alkyl, etc.;  $R^4$  is cycloalkyl,  $(CH_2)_n-R^5$  ( $R^5$  is aryl or heterocyclic group; (n) is 0-4) or  $C(Y^1)=CY^2Z$  ( $Y^1$  and  $Y^2$  are H, halogen or lower alkyl; Z is aryl);  $X^1$  and  $X^2$  are O or S], e.g. (E)-8-(3,4-dimethoxystyryl)-1,3-diethylxanthine. The compound of formula I can be produced by reacting a uracil derivative of formula II with a carboxylic acid of the formula  $R^4COOH$  or its reactive derivative and reacting the obtained compound of formula III in the presence of a base (e.g. NaOH) in a solvent (e.g. ioxane) at 0-180°C.

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